

ANNEXURE I
CHILD WORKERS*
IN CONSTRUCTION AND RELATED
INDUSTRIES

I. INTRODUCTION

The images of children at work under the scorching sun on building sites or in dark sweat shops lit up by welding sparks, have persisted for at least two generations. There is a danger of relegating the problem to the deadly realm of normalcy. Yet behind these apparently unchanging images there has been a rapid increase in the number of child workers employed in dangerous occupations in the informal sector. At the same time, a whole range of new hazards have emerged for child workers; toxic chemicals which they handle, carcinogenic fumes which they breathe, leading to disease and deformity of body and mind. Behind the façade of normalcy both the scale and intensity of the problem of child labour is acquiring a nightmarish dimension. Policy makers as well as the community must understand and act to arrest this mutilation of a new generation. This paper is the first systematic attempt at understanding the nature and extent of hazards faced by child workers in the construction and related industries, which perhaps are not only growing more rapidly but have far greater hazards than any other set of occupations in which children are employed.

This study is based on a field survey of 400 child workers in 200 small-scale establishments in Lahore. Section 1 places the study in the overall perspective of child work in Pakistan. An estimate of the total number of child workers in the country is made, the latest legislation on child labour discussed and the working conditions of children in the major occupations are analyzed. Section II is devoted to a discussion of the specific working conditions of children in the construction and related industries, based on gleaning the

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available secondary sources. In Section III the evidence of our own field survey which is focused on the issue of hazards faced by working children in the construction and related industries is presented. The major hazards in addition to sexual abuse and employer violence against child workers are examined on the basis of quantitative data. The number of casualties resulting from each type of hazard and in each type of industry is indicated. An attempt is made to construct a standardize index of hazards so as to assess the degree to which a particular hazard is lethal. Similarly, a standardized “Danger Index” is constructed to enable us to assess the degree to which a particular industry is dangerous with respect to work safety risk and accidents. Section III also analyses the survey data on wages and age groups of child workers, the income of their families, their family status and employer education.

In Section IV interventions by government and NGO’s are discussed. The paper ends with Section V with a discussion on a three-fold policy response and action that needs to be urgently undertaken in view of the survey findings.

I. CHILD WORKERS IN NATIONAL PERSPECTIVE

I (1) The Question of Numbers

A variety of studies have provided quite different estimates of the number of working children in Pakistan. The UNICEF 1992 Study¹ puts forward the figure of 2.01 million working children, while acknowledging that it may be underestimated. This figure obtained from the 1981 Population Census, which reports 2.01 million children between the ages of 10 to 14 years as working. Similarly, the earlier UNICEF (1992) Study² estimates that 21.5 percent of the child population in the 10 to 14 age group were working which means 2.7 million working children (given the 1981 Census figure of 11.1 million for child population in the 10-14 age group). Both these estimates are unreliable for two reasons:

- a) The Census figure for working children is likely to be incorrect, since the respondents are male heads of

household who are likely to conceal the number of their children at work for fear of legal action against them.

- b) The figure for working children is drawn from the age group 10-14, while a significant proportion of working children may be in the age group 5 <10.

A much better estimate is the one made by the Planning Commission. According to this estimate, there are 8 million working children in Pakistan³. while this figure may have overcome to some extent the downward reporting bias for working children that is inherent to the Census methodology, yet it is till an underestimate since it does not include working children in the age group 5 to < 10. I have attempted to cautiously improve the Planning Commission estimate to overcome this bias, and the figure for working children in the age group 5 to < 15 comes to 8.65 million in the year 1999⁴.

I (2) The New Legislation on Child Work and Employment

After signing the 1990 International Convention on the Rights of the Child, the Government of Pakistan repealed the obsolete Employment of Children Act 1938, and enacted a new law called the Employment of Children Act 1991. this law has four parts.

Part I of the 1991 Act defines children as persons below the age of 14 (which is at variance with the Convention which regards all persons below 18 as children).

Part II of the 1991 Act prohibits the employment of children in any occupation or process related to transport or ancillary operations, manufacturing of matches, crackers and fireworks, biris (which consists of tobacco rolled into a leaf), carpets, cement, cloth dyeing and weaving, mica, soap, wool cleaning, building and construction, slate pencils (making and packing), agate products and toxic substances such as pesticides, chromium, benzene asbestos, etc. However, the catch is that above prohibition exempts cases where any of these hazardous occupations are carried on by a person with the help of his family members.

Part III of the 1991 Act permits child employment in occupations other than those mentioned above and attempts to regulate the conditions of work of children. Thus they are prohibited from working between 7 p.m. and 8 a.m.; the maximum working hours permitted are seven, with a break of at least one hour after three hours of continuous work. No overtime is allowed, nor is a child allowed to take up two jobs simultaneously. A working child is entitled to at least one weekly holiday. All establishments employing children are required by this law to notify the Government about the nature of work and working conditions. These establishments are expected to conform to health and safety standards prescribed by the Government and to ensure clean and hazard free working conditions for children.

Part IV of the 1991 Act prescribes penalties for breaches of any of the provisions of the Act by employers. These include imprisonment for a period extending to one year and a fine of upto twenty thousand Rupees. While these penalties are more severe than those provided under the earlier child labour legislation, yet they are mild when we consider the impact on the health, safety and psyche of the child when the provisions are violated. Moreover, they are not enforceable against family members and unregistered establishments.

Manufacturing units employing less than 10 persons on a regular basis do not fall within the definition of factories and are not regulated by the Factories Act. Thus, while the new Employment of Children Act of 1991 may at best help reduce the number of children employed in hazardous occupations in the formal sector, it is unable to do anything about children employed in unregistered establishments in the informal sector where (lie) overwhelming proportion of working children are actually employed.

I (3) Working Conditions of Children in Major Occupations

Since (he) statistics on child workers reflect mainly the numbers in wage employment, child workers in the agricultural sector do not find an adequate place in quantitative estimates. Yet children working alongside their

families in agricultural operations such as seed bed preparations, fodder cutting, rice transplanting, weeding and harvesting may constitute the majority of working children in Pakistan. Such children are increasingly exposed without protective devices to toxic substances in pesticides and fertilizers. There is now evidence that indiscriminate use of pesticides many of which are banned in the advanced industrial countries are responsible for growing health hazards in countries such as Pakistan. For example, during the last decade, 25 percent of pesticides exported to developing countries (including Pakistan) from the U.S. were banned or unregistered in the U.S. Consequently, although developing countries account for only one—sixth of the pesticides users, the rate of poisoning there is 13 times as great as in the

Another dimension of the hazards to which rural child workers are exposed, arises out of the production conditions in agriculture: the traditional ties of dependence of poor peasants on landlords in large parts of Punjab and Sind have been reinforced by cash indebtedness following the “Green Revolution”⁷ Children of poor peasant families are often subjected to extra economic coercion. They are in many cases made to work without money wages, as domestic servants in the landlord’s manor where they are frequently subjected to humiliation, beating and abuse.

In the urban and semi—urban areas, most of the working children are employed in small—scale unregistered establishments in the informal sector where the employers can easily evade the legislative protections granted to working children with respect to protection against hazardous occupations and working hours. While the number of children in the large—scale formal sector may have declined, yet even here child work persists to a significant extent by means of the “Contract System”. Under this system children remain employees of a contractor in the informal section while actually working in larger industries, as a device to avoid the law.⁸

Research on child labour in Pakistan is a recent undertaking, and began with a study (Hussain, 1986) based on a survey of working children in Lahore in 10 occupations where children below age 15 were the predominant element in

the work force.⁹ This study examined for the first time in Pakistan, the economic and social conditions of working children. The study showed that children were working typically 54 to 72 hours per week for an average monthly income (cash plus benefits in kind) of Rs. 322. The study also provided evidence on the levels of education of working children, their attitude towards education, frequency of play, their ambitions, their contribution to family income and their wages and benefits by age group and industry. The Hussain (1986) study was followed by the UNICEF (1990) Quetta study¹⁰ on Child Labour. Unlike the earlier Lahore survey, the Quetta Survey indicated some of the hazards that child workers in various occupations were facing. It pointed out for example that inhalation of wool (lost by children exposed them to risk of respiratory diseases, tuberculosis and prolonged work in a squatting posture resulted in leg and spine deformities. Similarly, child workers in steel and iron workshops were exposed to lead poisoning, tetanus, eye diseases while a total of 35 accidents were reported by the study during the year. A more recent study (1990) of 26 small establishments in Lahore showed that all of them were employing one or more children under 15 years of age. These work places posed at least one and often several hazards to the health of the child workers, including respiratory diseases such as pneumonia, tuberculosis and silicosis, ophthalmic disorders, mental retardation, damage to various body organs and cancer.¹¹

II. CONDITIONS OF WORKING CHILDREN IN CONSTRUCTION AND RELATED INDUSTRIES (SECONDARY SOURCES)

There are probably more children working in construction related industries than in construction per se, mainly because work on construction sites (such as carrying bricks, or mixing cement) requires the strength of an adult, or skills (where automatic construction equipment and earth moving equipment is being increasingly used). However, children continue to be employed on building sites and function through an adult contractor in order to avoid (lie Law. The most important

construction related industries where children are employed are brick manufacture (including tiles), cement, steel windows, furnishing (including carpet knotting) and electrification. There is no study so far that examines (the question of hazards for working children in the construction and related industries as a whole at the micro level, let alone the national level. However, a few micro-level studies some of them based on casual empiricism, others based on small surveys (do exist for individual occupations such as brick kilns and carpet knotting.¹²

UNICEF estimates that at least 250,000 children work on brick kilns. A “guesstimate” by the Brick Kiln Owners Federation puts forward a figure of 6,000 brick kilns in Pakistan, with an average of 25 families per site.’ These families who live on the sites are locked into a dependency relationship with the owner which is akin to bonded labour. The indebtedness occurs through the “Peshgi” system under which the labourer borrows from the owner to fulfill his family’s consumption requirements. The loan which the owner readily gives functions as a trap, because it persists across generations due to high interest charges, manipulation of books, and low wages. During the period of “Peshgi” repayment (which in many cases is intergenerational) the family are virtual prisoners of the kiln owners and need special permission (not often granted) to leave the premises even for a short period. Physical abuses including rape of women and abduction have been reported. The study on working children in brick kilns of Sindh notes that the children witness the cruel treatment of their parents by the owners; and grow up in an atmosphere of fear insecurity and subjugation, which has a profound effect on their personality development. Interviews with parents and observation of children provide evidence of malnutrition, skin diseases due to contact with clay, dust and exposure to intense heat, as well as respiratory infections.¹⁴ Another study in NWFP showed that child workers in the brick industry suffered 50 percent more chronic chest infections than their counterparts in neighbouring villages.¹⁵

A detailed survey based sample study on child workers in the carpet industry in Punjab suggests that over 80 percent

of the carpet workers in Punjab are children below age 15 years, including 30 percent under 10 years.' The majority of carpets are knotted at home in carpet weaving villages on a sub-contract basis, while some are made in private centres, factories and a small number in Government workshops. Seventy percent of the families in the survey sample had taken an advance in return from carpet weaving at home. In most cases the loan had failed to pay back the loan within a reasonable time period and found that they had to continue weaving carpets indefinitely into the future through their children's work.

A majority of the children work more than eight hours a day at the loom with no one working less than six hours. Ninety percent of the children earned an average salary of between Rs. 200 to Rs. 500 per month.

The children work in poorly lit and poorly ventilated rooms. All the children surveyed had suffered from finger tip injuries. Other health problems include backache, respiratory diseases and low grade fever indicating chronic infection. Seventy percent of the children reported being beaten by parents and employers if they tried to avoid work.

The UNICEF Quetta study mentions hazards faced by working children in a qualitative fashion as one element in its wide ranging discussion. The only survey based study hitherto available which attempts to focus on hazards in industrial sectors/establishments employing children, is a 1990 UNICEF Study titled: preliminary Study and Survey of health Hazards and Working Children. Although the locus of the study is not on working children in construction and related industries but on industries in Lahore employing children, yet it is useful in that it attempts to assess the incidence of hazardous activities in the sample industries. The study points out that in the absence of protective devices and adequate ventilation, working children handle and/or breathe toxic substances resulting in a range of health dangers. For example, in paint industries handling of chemicals, mixing and dilution of paints, filling, sealing, labeling and storage is done with bare hands and exposed face. Consequently, the children come into frequent skin contact with toxic chemicals like pigments,

dyes, and thinners. Moreover, poor ventilation results in children inhaling toxic fumes from solvents. The disease symptoms resulting from these exposures are coughing, skin dehydration and ophthalmic disorders. Prolonged exposure creates danger of respiratory diseases, serious ophthalmic disorders, liver, kidney and stomach cancer. In the glass industry which may be regarded as a construction related industry (since it also manufactures window panes) the child workers are exposed to fine silica sand and high heat from the glass melting furnaces, as well as carbon monoxide. Long exposure to these substances can result in tuberculosis and pneumoconiosis.

In the furniture manufacturing industry the children are exposed to toxic solvents contained in polishing materials. They breathe solvent vapours in poorly ventilated workshops. Prolonged exposure to such chemicals can cause respiratory and ophthalmic diseases as well as persistent brain and body sluggishness.

III. CHILD WORKERS IN CONSTRUCTION AND RELATED INDUSTRIES: EVIDENCE FROM THE FIELD SURVEY

III (1) Methodology

The survey was designed to investigate two inter-related dimensions of child work in the construction and related industries. First, to discover the nature, extent and impact of occupational health and safety risks; second to specify the pattern of child employment across these industries with respect to age groups of children, wage and education level of the child workers, their Family status, and the education level of their employers. In the pursuit of these objectives the survey questionnaire was designed so as to enable identification of the specific hazards in each industry, and the number of casualties (injuries and deaths last year) resulting from each type of hazard in each industry. The wage levels, age and education level of the respondents was recorded together with their family status, family income and education level of their employer.

A total of 200 work places or establishments in seven industries were identified for investigation,, with the sample size of respondents being 400 (approximately 2 respondents were interviewed in each workplace). The number of workplaces (and hence number of respondents) assigned to each industry was based on the Quota Sampling Technique. This is a non-probability equivalent of stratified sampling. This technique was used to enable control of non-response bias in the survey. The target population was sub-divided into groups of workplaces/individuals likely to have homogeneous nature of work related hazards in each sub-group. The sampling procedure the major strata relevant for the study were identified and then quotas assigned to each stratum according to their approximate proportionate representation in the population. (The latter was based on judgment, arrived at after initial held visits which were more extensive than the ones at the interview stage). Accordingly, 58 workplaces (approximately 116 respondents) were specified for the construction industry, 48 workplaces (approximately 96 respondents) in steel window in manufacture, 35 workplaces (70 respondents) in white washing industry, 23 workplaces (46 respondents) in clarification, 17 workplaces (34 respondents) in furnishing, 11 workplaces (22 respondents) in tiles and eight work (16 respondents) in the cement industry. To bring out the full range of hazards at the workplaces visited and their precise nature, the respondents' information was supplemented by information provided by the interviewers on the basis of personal investigation and visual check of cacti workplace.

2. Analysis of Data

The data shows that there were 16 different kinds of hazards at the workplace with air pollution being by Far the hazard most frequently reported by the respondents. (See Table 3.) Air pollution includes high levels of carbon monoxide, unburnt carbon particles and silica particles in the air (in tiles manufacture), toxic solvent vapours from paints dyes and thinners, sulphur compounds in varnish solvents used in furniture manufacture corrosive acid fumes and

cyanide in the air, and carcinogenic fumes of vinyl chloride gas.

Table I presents the Full range of hazards reported, and the percentage of respondents reporting each hazard. This table shows that 30 percent of the respondents report air pollution at workplace followed by dangerous building structure of workplace (reported by 11.1 percent of the respondents), and excessive working hours (9 percent). It may be mentioned here that where accidents occur they usually happen near the end of the work day when the child worker has low concentration and poor body coordination due to acute fatigue. So that casualties reported due to hazards such as insufficient light, or proximity of worker to badly insulated electricity wires may be causally linked with this fatigue factor. Handling toxic chemicals, intensive heat and glare and uncovered manholes in the workplace are also reported by a significant percentage of total respondents interviewed (see Table I).

Table 2 presents the number of casualties reported in each industry due to various hazards. It is important to note that casualties are mainly injuries and respondents reported that individual child workers underwent repeated injuries during a year. The number of workplaces investigated in each industry of course varies across industries due to the sampling procedure (see Section III(J)). Therefore, column (c) in Table 2 has been constructed to show the propensity of each industry to cause injuries and deaths due to its particular set of circumstances. It appears that steel window manufacturing industry has the highest number of casualties per work place (15), followed by construction industry (12) and tiles manufacture (11).

In Table 3 we have attempted to synthesize the data on hazards and resultant casualties in each industry by constructing a standardized Lethality Index for each category of hazards. Similarly, a standardized Danger Index for industries has been constructed to show how dangerous each category of hazards is in terms of its weight in that industry.

The method of constructing the Lethality Index is as follows: the number of casualties were specified for each of

five categories of hazards (100 percent of the total casualties were covered by these five categories of hazards). These hazard categories were then ranked in descending order in terms of the number of casualties caused by each. For example rank number five was assigned to “Insufficient light” which has caused the highest number of casualties (616) and rank number one assigned I 0 “Machinery Without Safely Devices” which has caused the lowest number of casualties (142).

The standardized Danger Index of industries was constructed as Follows: the ratio of respondents reporting a particular hazard category to the total number of respondents in that industry was calculate for cacti industry. This ratio which signal the frequency of occurrence of a hazard in that industry was then multiplied by the Lethality Index of that hazard, to get the Danger Index of each hazard category for each industry. A Composite Danger Index (CDI) for each industry is given at the end, which is the sum of the Danger Indices of each hazard (or that industry).

Table 3 shows that Steel Windows manufacturing is the most dangerous industry in terms of the work safety risk followed closely by Tiles. Construction and Cement have close third and fourth position, followed by White Washing. Cement and Finally Furnishing While the Composite Danger Index (CDI) is useful in that it gives the aggregate “Danger Level” of each industry, yet the relative position of the industries with respect to the CDI must be interpreted with caution. The reason that the danger index is nit in based on the number 01 casualties resulting from various hazards in various workplaces ii that industry in on e particular year. Now many of (tic hazards such as handling of toxic chemicals protective devices, or breathing carbon monoxide and silica dust, may impact the physiology of the child worker over a period of time: similarly, hazards such as weak building structure, machines without safety devices may not have actually caused accidents in the particular year being reported, but may do so in the future. Thus, if the same workplaces were investigated a few years into the future, (assuming no improvement in working conditions) then the relative number

of casualties due to various hazards across industries may well be different, and hence the ranking of industries with respect to CDI may change. What is important to note is that there is a significant variation in the number of casualties resulting from various hazard categories. Therefore, the degree to which the composition of hazards present in a particular industry is weighted towards the more lethal hazards would make that industry potentially dangerous.

No significant association was observed between workplace casualties and education level of the employer. However, in the case of three hazards, (inadequate light, proximity to road and dangerous building), the extent of the hazard is much less Frequent in cases where the employer has a college education compared to cases where the employer has only school education. (Sec Table 4.)

Table 5 presents the percentage of child workers reporting sex abuse in each industry and in each age group. In the case of tiles, cement, furnishing and construction, between 11percent to 15 percent of the respondents (in the respective industries) report sex abuse against their person. In the case of electrification, steel windows and white washing the prevalence of sex abuse is at a lower level, ranging from 2 to 4 percent.

Employer violence like sex abuse is Prevalent to a significant extent although it varies (as in the case of sex abuse) considerably between industries. As Table 6 shows the average prevalence of employer violence against respondents is five percent for industries with the percent age figure being much higher at 15 percent in furnishing, low in white washing at one percent. The reason could be that the market for furniture is highly quality conscious, so employers in an attempt to force children to achieve perfection in varnishing and smoothing the wood may be beating them extensively. In the case of white washing however the task being much simpler and variation in quality due o worker negligence much lower, employers may not find it necessary to “discipline” their workers. There seems to be no distinction between age with respect to employer violence, with the percentage figure (five percent) being the same for both age groups.

As Table 7 shows by far the largest proportion of child workers have a wage of Rs. 200 per month or less with the pattern being broadly consistent across industries and age groups. However, the exceptions are the electrification industry sled windows and tiles industries where a substantial proportion of child workers fall in the higher wage category of Rs. 401 to Rs. 600. This may be because electrification requires higher skill levels and tiles and steel windows manufacture are far more hazardous than other industries. This is borne out by the composite danger index of 11.33 and 12.7 in the case of the latter two industries respectively. (See Table 3.)

Table 8 compares wage income of the child workers with their family income, by industry. In the case of all industries it turns out that child worker's income constitutes a very substantial proportion of family income. The figure varies between 27 percent for tiles to 50 percent for cement. The proportion of child worker income to family income may be higher in this study when compared to an earlier (1986) micro study which covered a much broader range of occupations. The reason (apart from the fact that current monthly wages have increased over the last six years) is that construction and construction related industries are far more hazardous than other occupations in which children are employed (e.g., roadside hotels, sweepers, etc) and parents are quite aware of this fact. So that parents who send their children to work in the construction and related industries may be under much greater poverty pressure, which explains the higher child wage/family income ratios.

As Table 10 shows, an overwhelming majority of child workers in our survey were living with both parents. (This is consistent with the findings of the UNICEF Quetta Survey.) This is true for all industries except cement where 50 percent of the respondents were living with a friend or relative. It is significant that between six percent to 12 percent of child workers in various industries were living alone. Table 9 shows that the average wage of child workers living alone is higher than for those who live with one or both parents.

IV. NGO/GOVERNMENT INTERVENTIONS

A major development in the government sector since the last two years is official acknowledgement that the problem of child labour exists and a formal commitment to implement the provisions of the International Convention on the Rights of the Child (1990). The most important and perhaps the only concrete action of the government has been enactment of the Employment of Children Act 1991. (Sec Section 11(2) of this paper.). However, even here the weakness is that no administrative mechanism has been specified for implementing the law. Penal provisions have so far not been enforced in a single case inspite of obvious and widespread violation of the law. At the level of commitment of financial resources the government has announced its intent ion to launch a Social Action Programme (SAP). As pair-of this programme an inter-ministerial task force was established to prepare a “National Programme of Action” (NPA), for Children and Development. This programme has now been formulated.¹⁸ and a budget estimate of Rs. 85 billion for the next twenty years has been prepared for spending on projects (yet to he formulated) For “Children in Difficult Circumstances (CDC’s). The NPA includes child workers amongst others, in this category. Some of the other concerns of the NPA are the provision of basic education, water and sanitation, health and nutrition all of which are targeted to the poor in general rather than children in particular.

The major activities envisaged under the NPA are as follows: (i) organization of conferences/seminars to enhance social awareness of the problems of “Children in Difficult Circumstances”. (ii) organization of training workshops for supervisors and field workers. (iii) surveys/research to assess the magnitude of child abuse and exploitation. (iv) motivation of voluntary cadres to undertake promotional services for CDC’s, (v) establishment of legal aid centres to guide children suffering from abuse neglect and exploitation.

While as yet little concrete action for working children has emerged following the governments announcement of the National Programme of Action, some small rudimentary steps have already been taken iii the NGO sector. The NGO

interventions for alleviating the problem of working children at the local level may be briefly described as follows:

1. **Working Children Centres.** These have been established by ABMA (Anjuman Behbood Mehnat Kash Atfal) in Quetta. There are ten ABMA children centres which attempt to provide education to about 300 boys most of whom work in garages. Classes are held for one and a half hours per day after work at about 5.00 p.m. ABMA has a health services programme for working children but it is still at an initial stage. The children have been issued health cards which entitles them to free medical care in a particular hospital. Additionally, first aid kits have been placed in garages on an experimental basis and children and employer trained in first aid care.
2. **Education for Children in Bonded Labour.** By May 1992, the Bonded Labour Liberation Front of Pakistan (BLLF) which is an NGO devoted to overcoming the slavery of bonded labour through education, had by 1992 established 122 schools serving 3000 working children mostly working at brick kilns. These schools offer non-formal education but BLLF has also begun a special education programme of integrating children who have gone through BLLF schools into government primary schools. The BLLF plans to reach a target of establishing 1,000 non-formal schools for working children and to establish health centres at brick kilns.
3. **Carpet Weaving Child Workers Project of Dast-i-Shafqat.** This NGO has established basic literacy classes for 16 carpet weaving children in a private carpet factory in Korangi, Karachi. It also plans to provide health services to the working children and to monitor their health through regular medical check-ups.
4. **Working Children Centre Korangi.** The Pakistan Institute of Labour Education and Research (PILER) is an NGO which has initiated this centre for working children since May 1992 in three rooms with an outdoor space for recreation. The Centre is attempting to provide non-formal education through classes held daily for one to two

hours in the afternoon and also provides recreation and monthly picnic trips to the children.

5. **Community Centre for Working Children, Gulshan-i-Sikandarabad, Karachi.** This Centre has been established by the Institute of Social Research and Development (ISRD) for working children engaged in cleaning of oil tankers and other occupations on the streets. Three main activities of the centre are the provision of primary school education, a vocational school with welding as the main component for children of 12 years of age and sports such as badminton and cricket which they would not normally have the opportunity of playing.
6. **Education of Brick Kilns Children in the Federal Area of Islamabad.** The National Commission for Child Welfare and Development (NCCWD) has initiated an educational project for children through non-formal education classes held on the premises of the brick kilns where the children work and live. Since May 1992, six classes have been established for 117 children between the ages of 5 to 14 at six brick kiln sites near the village of Karal. The classes are of two-hour duration and are held in the afternoon by six part-time teachers.

V. IMPLICATIONS OF SURVEY DATA FOR POLICY AND ACTION

The data indicates that child workers in the construction and related industries are facing at least 16 different hazards to their health and safety with approximately 12 casualties per work place during the last year. Steel windows manufacture, Tiles and Construction industries are the most dangerous in terms of risk to health and safety of the child workers. Insufficient light at workplace, badly insulated wires, lack of protective devices for workers using dangerous equipment and materials and poor ventilation are amongst the most lethal hazards in the industries we have surveyed. Clearly, the long term task can be none other than withdrawing these working children from occupations which are causing repeated injuries, chronic diseases, physical and mental deformities and in some cases even death. However, the experience of Pakistan and other South Asian countries is that mere legislation is not

enough to protect these children. (After all there has been a law against employment of children in precisely such occupations since 1938 and a much more rigorous law since 1991.) Action is simultaneously needed on three Fronts:

1. An administrative mechanism targeted towards the ending of child labour in hazardous occupations over the next five years needs to be urgently put in place. This mechanism can consist of specifying the number of children, location of hazardous work units, the details of the hazards in each work unit and the names of the employers in the area under the jurisdiction of each Assistant Commissioner in the Country. This data should be available to the Commissioner of each division whose task should be to indicate specific achievement targets for the Assistant Commissioners, (in terms of which their salaries, promotion and benefits should be decided). The achievement targets would consist of the following:
 - (a) Closing down 1) a target date work units whose location, equipment and production processes are so hazardous as to be beyond redemption. In this case an alternative source of livelihood for the employees would have to be organized with a credit facility to enable establishing alternative enterprises by the employers.
 - (b) Replacing child workers with adults in cases where the workplace can be rendered safe without drastic intervention. Alternative livelihood for the children in non-hazardous occupations together with provision of education should be organized.
 - (c) To design proposals for reducing or eliminating hazards at the workplace through introduction of protective devices for workers, safety and automatic shutdown devices on machines, improving the ventilation of the workplace, improved lighting of the workplace, and insulation of the wiring system of building and strengthening the building structure. The technical support and credit required for achieving this objective should also be organized by the Assistant Commissioners with support from relevant government agencies.

2. Perhaps the most efficacious way of alleviating the condition of child workers in hazardous industries and ultimately withdrawing them from these dangerous occupations is intervention at the local mohalla level through community organization. Save the Children Organizations (SCO's) involving the participation of the local community need to be established by means of trained catalyzers developed by districts level support organizations called District Child Support Centres (DCSC's). The community organization would have the task of negotiating with the employers to improve workplace safety to replace children working in hazardous occupation with adults, to provide the children withdrawn from such work with education, alternative skills and part-time employment opportunities. The task of the DCSC'S would be to provide trained cadres for mobilizing and organizing local communities, provide technical support regarding improvement of workplace safety, organize credit to enable the workplace owners to install new equipment, acquire protective devices, use safer chemicals where substitutes are available and improve the electrical wiring and building structure. Finally, the DCSC's need to be coordinated by an apex organization such as the Trust for Voluntary Organizations which has recently been established in Islamabad or alternatively a new National Urban Support Programme along the lines of the National Rural Support Programme (NRSP) instituted earlier this year.
3. A pilot programme for employers in construction and related industries should be initiated in each of the major cities of Pakistan. The purpose of the pilot programme would be to form an employees association for units in the informal sector backed by technical and credit support from the Ministry of Industries. The technical and credit support should be designed to make employers aware of the health and accident risks to the employees, and to develop programmes for achieving work safety at the workplace to improve technology and replace children with adult workers with special monetary incentives for employers who achieve this objective within a specified time limit.

Table I
Percentage of child workers reporting hazards,
by type of hazard

Hazard	Percentage
Health and safety hazards resulting from intrusion of workplace onto the road (1)	8.2
Dangerous building structure(2)	11.1
Unsafe electrical fitting(3)	3.0
Unsafe use of equipment (4)	3.6
Acute air pollution (5)	30.1
Handling toxic chemicals without protective devices(6)	5.0
Using unsafe steel cutting procedure	0.3
Intense heat & glare	7.7
Danger of falling into furnaces which lack protective devices	1.7
Unhygienic food at workplace	8.1
No protection against welding sparks	2.6
Excessive working hours (7)	9.0
Drain water spread across workplace floor	2.3
Uncovered man hole on premises, cement dust and/or wood scrap at factory floor where child workers eat food	7.30

Source: ILO/PIEDAR Field Survey on Child Workers in Construction and Construction-related industries, September 1992.

- Notes: (1) Includes injuries/deaths caused to child workers by passing vehicles in cases where these workers are employed in open air workshops which intrude onto metalled roads.
- (2) Includes weak building structure, broken stairs, weak roofs.
- (3) Includes open switches, electric wires hanging near the workers, naked wires, electric sparks.
- (4) Includes protruded cutting edges, absence of safety devices on machines.
- (5) Including high levels of carbon monoxide, unburnt carbon particles in the air, silica particles in the air (in tiles factories), toxic solvent vapors from paints, dyes and thinners, sulphur compounds in varnish solvent used in furniture manufacture, corrosive acid fumes and cyanide in the air in electroplating units, careinogenic fumes of vinyl chloride gas (a degraded products of PVC moulding).
- (6) Toxic dyes, pigments, plasticizers, dryers, acids, metacarpals, acrylic and vinyl resins, used in furniture, paints, and plastic molding units.
- (7) More than 10 hours of continuous work.

Table 2
Number of casualties last year due to any hazard and
number of workplaces, by type of industry

Industry	(a) Reported Number* of Casualties during last year	(b) Number of Workplaces	(c) Number of Casualties per workplace last year
Construction Steel Window	677	58	12
Manufacture	752	48	15
Electrification	60	23	3
Furnishing	125	17	7
Tiles	111	11	11
Cement	64	8	8
White Washing	160	35	5

Source: ILO/PIEDAR Field Survey on Child Workers in Construction and Construction-related industries, September 1992.

*Note: Respondents reported that an individual child worker experiences repeated injuries during the year, and returns to work after first aid or medical treatment.

Table 3
Lethality index of hazards and danger index of industries

HAZARDS	(A) Standardize d Index of Hazards	(B) standardized Danger Index of Industry						
		Constru- ction	Steel Windows	Electrifi- cation	Furnish-ing	Tiles	Cement	White Washing
Insufficient light at workplace	5	2.68	3.96	2.70	0.79	4.80	4.25	4.46
Workplace hazards due to incorrect location of equipment and other protuberances, electricity, wires, switches, etc.								
Lack of protective devices while using dangerous equipment and material	4	2.65	3.74	-	1.188	2.92	3.6	2.38
Workplace dangers due to proximity to road, etc.	3	2.46	2.34	1.85	2.52	2.77	-	0.16
Unsafety machinery without safety devices.	2	0.95	1.43	0.62	1			10.54
	1	0.50	1.23	0.54	0.61	0.38	0.80	0.46
Composite Danger Index	-	9.24	12.7	5.71	6.1	11.33	9.05	8.00

Source: ILO/PIEDAR Field Survey on Child Workers in Construction and Construction-related industries, September 1992.

Table 4
Number of child workers reporting casualties* due to selected hazards by education level of employer

Hazards	All Levels	Illiterate	Primary	Middle	Matric	F.A.	B.A.
Inadequate light at workplace	173	1	37	37	79	17	2
Proximity to road	16	0	0	3	8	3	2
Dangerous building structure	18	0	4	4	9	1	0

Source: ILO/PIEDAR Field Survey on Child Workers in Construction and Construction-related industries, September 1992.

* Casualties occurred in last year. The number refers not to the number of casualties, but the number of respondents in each case reporting one or more casualties.

Table 5
Sex abuse at workplace

**Number of children reporting sex abuse against them
as a percentage of respondents in the industry by age and
type of industry**

Industry	All Age Group	Age Group 8 -10	Age Group 11 -15
	Percentage	Percentage	Percentage
Construction	15	6	9
Steel Windows	4	2	2
Electrification	2	-	2
Furnishing	15	6	9
Tiles	11	5	6
Cement	13	-	13
White Washing	4	1	3

Source: ILO/PIEDAR Field Survey on Child Workers in
Construction and Construction-related industries,
September 1992.

Table 6
Employer violence
Number of child workers reporting employer violence against them
by industry and age of child

Employer Violence against child workers by industry									Employer Violence by Age of Child Worker		
All industries	Construction & Wood work	Steel Windows	Electrification	Furnishing	Tiles	Cement	White Washing	Others	All age	8-10	11-15
20 (5)	7 (4)	7 (7)	1.3 (4)	5 (15)	0 (0)	0 (0)	1 (1)	0 (0)	20 (5)	7 (5)	13 (5)

Source: ILO/PIEDAR Field Survey on Child Workers in Construction and Construction-related industries, September 1992.

Note: (1) Figures in brackets refer to the number of child workers reporting employer violence against them as a percentage of the total number of respondents in that category.

(2) Violence including punching with fist or use of sticks, chains

Table 7

Number of child workers in various wage categories by age and type of industry

Industry	Number of Child Workers in Age Group 8-10				Number of Child Workers in Age Group 11-15			
	Rs. per month upto 200	Rs. per month upto 201-400	Rs. per month upto 401-600	Rs. per month upto 601 & Above	Rs. per month upto 200	Rs. per month upto 201-400	Rs. per month upto 401-600	Rs. per month upto 601 & Above
Construction	20	13	2	8	40	20	2	11
Steel Windows	16	7	4	1	22	13	24	9
Electrification	3	3	1	2	15	10	9	3
Furnishing	10	3	-	-	11	6	2	2
Tiles	4	2	-	1	5	4	6	2
Cement	2	1	-	-	10	1	1	1
White Washing	26	2	-	1	35	2	1	2

Source: ILO/PIEDAR Field Survey on Child Workers in Construction and Construction-related industries, September 1992.

Table 8
Comparison of child worker's income with family income

Industry	Average Wage (Cash) of Child Worker (a)	Average Income of Family (Monthly) (b)	Percentage (a/b)
Construction	799	1661	42%
Steel Windows	493	1755	28%
Electrification	697	1860	37%
Furnishing	388	1378	28%
Tiles	481	1740	27%
Cement	799	1580	50%
White Washing	604	1720	35%

Source: ILO/PIEDAR Field Survey on Child Workers in Construction and Construction-related industries, September 1992.

Table 9
Monthly wage of child workers by family status of child worker

Family Status	Average Wage (Monthly)
Living alone	795
With both parents	555
With one parent	461
Other (friend/Relative)	606

Source: ILO/PIEDAR Field Survey on Child Workers in Construction and Construction-related industries, September 1992.

Table 10
Family status child workers by type of industry

Industry	Any status	Living with both parents	Living with one parent	Living with friend/relative	Living alone
Construction	100	91.0	1.4	1.4	6.2
Steel Windows	100	85.4	7.9	4.5	6.2
Electrification	100	94.0	-	4.0	12.0
Furnishing	100	86.4	4.5	4.5	4.5
Tiles	100	76.9	3.8	19.3	-
Cement	100	50.0	-	50.0	-
White Washing	100	66.7	8.3	16.7	8.3

Source: ILO/PIEDAR Field Survey on Child Workers in Construction and Construction-related industries, September 1992.

NOTES

1. UNICEF/Government of Pakistan: Situation Analysis of Children and Women in Pakistan, 1992.
2. UNICEF(Punjab Programme Office): Preliminary, Study and Survey on Health Hazards and Working Children, December 1992.
3. National Programme of Action for the Goals for Children and Development in the 1990s, Government of Pakistan, Planning Commission, (Not dated).
4. My estimate uses the Population Census figure for children in the age group 5 to 9, then estimates the number of children in this age group below the poverty line on the basis of Ercelawn's national average figure of 40 percent (1990). Then number of working children in this age group is estimated by applying the Planning Commission ratio of 12 percent to the category of poor children in this age group. The working children in this age group are then added on to the Planning Commission figure of working children in the age group 10 to 14.
5. See Akmal Hussain: Women, Environment and Development. Paper presented to the Centre for Research and Management, Islamabad, February 12, 1991.
6. Catherine Canfield: Pesticides Exporting Death, New Scientist, August 16, 1984.
7. For a detailed analysis of this issue see Akmal Hussain: Technical Change and Social Polarization in Rural Punjab, in Strategic Issues in Pakistan's Economic Policy, Progressive Publishers, Lahore, 1988.
8. Situation Analysis of Children and Women in Pakistan, UNICEF, 1992, Page 84.
9. Akmal Hussain: Economic Growth, Poverty and the Child, Paper presented at the Harvard Conference on Who speaks for the Child, Harvard University, Cambridge, Mass, August 1986. Published in Strategic Issues, op. cit.
10. UNICEF (1990), Manzooruddin Ahmad: Child Labour: A time to Reflect.
11. Study by Nishtar Medical College, Multan, cited in: Discover the Working Child, 1990, UNICEF, Islamabad.
12. See for example: Y. Mitha et. al: Bonded Labour in the Brick Kiln industry; S. Rehmatullah and M. Hassan: Children at Risk, Children Working in Brick Kilns: UNICEF (1990) /Institute of

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 15. UNICEF: Discover the Working Child..... op. cit., page 16.
 16. Saeed A. Awan and Abid Ali Khan: Child Labour in Carpet Weaving Industry in Punjab.
 17. Se Akmal Hussain: Economic Growth, Poverty and the Child, op.cit.
 18. National Programme of Action Planning Commission, Government of Pakistan (Updated).

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